Trip Report

Kyiv, Ukraine

March 25-31, 1999

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This is a report of the March 25-31, 1999 trip to Kyiv, Ukraine by Herman E. Mitchell, Ph.D., consultant to the project. During the course of this visit, Drs. Masnyk, Howe, and Bouville were present through Saturday March 27th, and Professor Burch was present through Wednesday April 31st. Meetings during the first two days usually included both Dr. Howe and Professor Burch. The remaining meetings often included Professor Burch. Therefore, it is expected that a number of issues and meetings referred to in this report will also be documented elsewhere. Although I have not seen the other trip reports, I will try to confine my report to those topics I expect are not addressed elsewhere.

March 26th meeting with Dr. Derevianko (epidemiologist), Mr. Kostin (DCC Chief), Dr. Howe and Professor Burch:

During this meeting we first quickly reviewed the status of the DCC operation with regard to equipment and software and then the status of study forms programming and data collection.

Hardware: The DCC equipment is now fully operational. They have a local network server with 6 attached workstations (5 in the 5th floor DCC office used by programmers, data entry and epidemiology) and 1 workstation in the 4th floor project administrative office. The small network hub that I brought over with me on the last trip solved the problems they were experiencing in setting up the network Minolta printer. All workstations on the network can now share this device. Dr. Bogdonova has an older, NCI-donated workstation in her lab which is not linked to the network due to the need for a 10-Mbit network connector board. (A later section of this report deals more specifically with the DCC's minor, additional hardware needs.)

Software: The DCC is in the process of converting all data bases to a Interbase platform. At present many of their existing programs are written in Paradox and are generally compatible with this software platform, but most new development will made in a more compatible and flexible Structured Query Language format. Some older Paradox programs may need to be converted eventually. Mr. Kostin seemed quite happy with the software systems with the minor exception of a few hardware limitations (mainly computer memory) that constrain their use of certain workstations to certain functions.

We reviewed the process of data collection from initial cohort selection, invitation scheduling , examinations and interviews. This information is, no doubt provided in Professor Burch and Dr. Howe's report. I will focus on data entry and programming progress. At the time of our meeting, Mr. Kostin and his programmer had completed programming for 5 study forms, namely, the Locator; Ultrasonography; Initial Registration; Blood Collection and Laboratory forms. Additionally, programming had been completed for the "Dynamic of Invitation Form" which was designed by Dr. Derevianko to by completed by the local medical personnel in order to generate a report of recruitment status.

Of those forms programmed for data entry the data entry status by form, is as follows:

Dynamic of Invitation Form	941
Locator Form	2085
Ultrasonography Form	0
Initial Registration Form	100
Blood Collection Form	0
Laboratory Form	0

At present (March 26, 1999), they had screened 2698 participants. Mr Kostin hoped to have all screening forms programmed for entry in one more month (although this seemed a bit ambitious).

Data Security: Data forms had been placed in piles on the tables adjoining the DCC and should be filed away in participant numbered file folder and cabinets. Electronic backups of the study databases are being performed regularly but copies or not being stored off-site to protect against disaster. We recommended that Mr. Kostin take a copy of the data tapes home at night until a secure off-site, fire proof storage can be arranged. It was pointed out that we frequently use Bank safety deposits boxes for disaster recovery storage in the U.S. and we were told they would look in to that possibility.

Meetings with Tereshchenko: Several meetings were held with Drs. Tereshchenko and Derevianko, primarily to discuss issues related to cohort identification and recruitment and protocol modifications. Since I occasionally missed part of these meetings to hold further discussions with Mr. Kostin regarding programming and data management issues I am certain they will be better documented in the reports of my colleagues. These meetings were attended by Dr. Howe and professor Burch and are documented in their trip reports. I will review those reports for any additional comments I may have.

Meetings with Mr. Kostin: throughout the trip I number of meetings of varying length were held

with Mr. Kostin. Usually, these meetings were one-on-one, but occasionally included Professor Howe and Dr. Derevianko. The meetings with Mr. Kostin focused on 3 major topics; I) DCC operations; II) data management issues regarding data quality; and III) reporting formats for project status reports. The full group engaged in discussions of this later topic with Professor Howe guiding the discussions and clarifying reporting requirements and needed modifications. Additional comments regarding the our recommendations for project reports will be found in Professor Howe's trip report.

I. DCC Operations:

Mr. Kostin and I discussed issues of DCC operations including equipment status, maintenance, and usage; and personnel responsibilities and needs.

A). Equipment:

The DCC is now well established Mr. Kostin has done an excellent job of setting the DCC local area network, installing all software systems and managing the workflow. Dr. Mincey, it should be noted, was very helpful in assisting Mr. Kostin in identifying and resolving equipment problems with Computerland Kyiv as well as providing advise about personnel and DCC setup.

1). Computer workstation memory:

Due to increasing software requirements and the never ending complication with ordering computer equipment, the DCC equipment configurations need a bit of adjustment. Basically, Computerland Kyiv was not able to provide the exact models that we (and they) had configured during earlier visits. The models were upgraded, but in order to keep the prices the same they reduced the amount of memory in the computers. This creates some limitations for certain systems in that they run slowly or can not run the full data management system software. At present of the 5 standard workstations attached to the network, 2 have only 16MB of RAM memory and 3 have 32 MB. The main programming system, which includes the image analysis functions and optical drives contains only 32 Mb of memory. All these system could be easily and inexpensively upgraded to 64 MB. The cost will be between $60 to $90 per machine and will greatly increase their speed and functionality. This memory should be order in the US and carried over to Kyiv. It is simple to obtain and install. I have all equipment part numbers and specifications necessary for this order.

2). Expanding the DCC laptop for network use.

The DCC has a laptop computer which could be used as an additional workstation if a network card is purchased. When both programmers and all 3 data entry people are working, the epidemiologists must wait for available equipment to run their reports. The DCC office has an available network connection, but the laptop needs the internal board which permits the link to the network. This board is approximately $150; is quite small and again, should be purchased

here and taken to Kyiv.

3). Dr. Bogdonova's workstation.

As mentioned earlier, Dr. Bogdonova has a older workstation which can not be connected to the network since it also does not have a network board for connection. A network card for this machine would be less than $100.

B). Maintenance:

The DCC copier is in need of a drum replacement which is an expensive maintenance cost. One approach is to establish a maintenance contract for the copier and Mr. Kostin was asked to obtain a quote for this maintenance contract. This contract was obtained by Mr. Kostin and given to Dr. Masnyk for his consideration.

C). Personnel needs:

Mr. Kostin expressed the difficulty he has had in his new position as head of the DCC. He is concerned that his programming time has been greatly reduced due to his added project responsibilities. Primarily these added tasks include answering a myriad of questions on everything from the ultrasonography devices and their Camtronics imagine data collection, to preparing files and special reports for the epidemiologists and mobile teams. He fears that the programming efforts will fall behind without additional help. He requested an additional programmer for a 3 to 6 month period to get the project up and running.

II. Data Quality Issues:

This topic was the major item of discussion with Mr. Kostin. Basically, I spent several hours with Mr. Kostin and his other programmer discussing appropriate data edit procedures and reports. Many different topics were discussed and most of them were not familiar to Mr. Kostin and will require reinforcement and review on subsequent visits. In this report I will attempt to give the flavor of these conversations. For example, at present all of Mr. Kostin's data entry programs block errors from entry. The computer will not accept invalid data and brings the data entry process to a halt. I explained at length with many examples from real study forms the problems with this approach. I explained the value of permitting errors to enter the system and then generating edit reports which document corrections to study data. Also, I provided examples of how these error reports can be summarized to show potential weaknesses in training, confusion in the protocol, or lack of understanding of a particular interviewer or clinician. I also pointed out the inefficiency of stopping data entry operators who must track down error corrections, only to return to the form entry later and discover yet another error 3 questions later. The notion of letting errors into the system and then batch editing data is not a familiar concept and caused some considerable confusion at first. By the end of the visit, upon repeated examples

from real study data and forms, the idea was becoming more attractive. However, this will require some major changes in programming approaches.

Other topics covered included identification of missing data, validation specifications, error trapping, database design for holding "unclean" data forms, and database updating in batch mode for cleaned records. As mentioned above these topics need more explanation and I think Mr. Kostin would greatly benefit from a visit to the US to observe data management in this country.

III. Project Status Reports:

Professor Howe, Dr. Derevianko, Mr. Kostin and I spent considerable time reviewing current project status reports and suggesting modifications and new reports which might aid all of us in understanding the current status of the project. As these reports were discussed, I sat a computer and programmed the necessary tables in Excel format. In this manner, we were able to leave behind working copies of Excel spreadsheet which included the necessary formulas for calculating totals, etc. In these reports, sample numbers were inserted to "test" the programmed formulae. Five separate reports were designed. An effort was made to follow a common logic for each report so that the reader and those generating the report would not be confused. For each report there are two versions attached the spreadsheet format with sample (made up) data and an annotated version which provide definitions for each column of each report. For example, Table #1 "Identification of Current Address of 1986 Cohort" is shown below;

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
Table # 1	Identification Of Current Address of 1986 Cohort										
Study Rayon	Total in 20,000 Cohort in 1986	Total Living Identified	%	Deceased	%	Duplicate Records	%	Moved to Unkown Address	%	Not Yet Found	%
Town of Pripriat											
Polessky											
Ivankiv											
Chernobyl											
Kozelets											
Ripkinsky											
Cherninhiv											
City of Chernihiv											
Narodychi											
Ovruch											
Total	0	0		0		0		0		0	
(A)	Name of study area (Rayon or City)										
(B)	Number in study area in original 1986 dose measurement file										
(C)	Number who: a) found living in the original 1986 Rayon; b) living in another Rayon; c) moved out of country; d) temporarily absent										
(D)	Percent of 1986 cohort identified										
(E)	Deceased										
(F)	Percent of 1986 cohort deceased										
(G)	Number of duplicate records										
(H)	Percent of 1986 cohort records which are duplicates										
(I)	Number moved to address which is not known										
(J)	Percent of 1986 cohort for which address is unknown										
(K)	Number not yet found										
(L)	Percent of 1986 cohort who have not yet been found										

The most confusing part of the project reports that we have received from our Ukrainian and Belarusian colleagues has been the constantly changing denominators. We have attempted to keep the percentages always based upon the left most data column (or the second data column, if necessary). This format approach allows one to read these reports without always struggling with the determination of numerators and denominators. These are draft reports and are submitted for comments from all of our project members. I have the electronic versions and can make modifications as needed.

The five reports (tables) we designed are:

Table #1. Identification of the Current Address of 1986 Cohort

Table #2. Status of Cohort with Identified Current Addresses

Table #3. Status of Recruitment and Screening Activity

Table #4. Details of Accepted Invitations

Table #5. Reasons for Refusals

All the annotated tables are attached in Appendix A. I believe it would be worthwhile for our group to make these report formats a major discussion item for an up-coming meeting in Washington.

In order for Mr. Kostin and Dr. Derevianko to become familiar with these formats we worked with them to filled in as much data as they could during the visit. Those tables are provided in Appendix B. The numbers in these tables were generated rather quickly and, in some cases, estimated. One should not rely to heavily on their accuracy, Our Ukrainian colleagues need time to program queries to pull these data more accurately from their databases. Mr. Kostin and I discussed the value of establishing standard query programs for this purpose. Given that amount of work that will require, we should make any changes as quickly as possible so as not to make them reprogram.

Summary:

I was quite favorably impressed with the improvements that I saw in Kyiv. Mr. Kostin has clearly been hard at work. He has filled his new position as DCC head in manner better than I had hoped. His grasp of the project has improved tremendously and his expertise in both the hardware and software demands of the project were clearly evident. The small group method of visiting was most productive. Although I missed being with the full American team, the opportunity to have long, uninterrupted periods of time to thoroughly review issues and problems was most rewarding and fruitful. A combination of these small-team trips with the larger

meetings seems to me, to be ideal. While the small groups provide a productive setting, the project must be fully integrated and will require discussions with all the players present on occasion.

Appendix A

Annotated Table Formats for Project Reports

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
Table # 1	Identification Of Current Address of 1986 Cohort										
Study Rayon	Total In 20,000 Cohort in 1986	Total Living Identified	%	Deceased	%	Duplicate Records	%	Moved to Unkown Address	%	Not Yet Found	%
Town of Pripriat											
Polessky											
Ivankiv	737	630	85%	24	3%	67	9%	26	4%	67	9%
Chornobyl											
Kozelets											
Ripkinsky											
Chernihiv											
City of Chernihiv											
Narodychi											
Ovruch											
Total	737	630		24		67		26		67	

(A)	Name of study area (Rayon or City)
(B)	Number in study area in original 1986 dose measurement file
(C)	Number who: a) found living in the original 1986 Rayon; b) living in another Rayon; c) moved out of country; d) temporarily absent
(D)	Percent of 1986 cohort identified
(E)	Deceased
(F)	Percent of 1986 cohort deceased
(G)	Number of duplicate records
(H)	Percent of 1986 cohort records which are duplicates
(I)	Number moved to address which is not known
(J)	Percent of 1986 cohort for which address is unknown
(K)	Number not yet found
(L)	Percent of 1986 cohort who have not yet been found

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
Table # 2	**Status of Cohort with Identified Current Addresses**										
Study Rayon	Total Living Identified	Total Living in Rayon	%	Living in Same Oblast	%	Living in Other Oblast	%	Emigrated	%	Temporarily Absent	%
Town of Pripriat											
Polessky											
Ivankiv	630	581	92%	17	3%	24	4%	8	1%	5	1%
Chornobyl											
Kozelets											
Ripkinsky											
Chernihiv											
City of Chernihiv											
Narodychi											
Ovruch											
Total	**630**	**581**		**17**		**24**		**8**		**5**	

(A)	Name of study area (Rayon or City)
(B)	Number who a.) found living in the original 1986 Rayon; b) living in another Rayon; c) moved out of country; d) temporarily absent
(C)	Number who are now living in the original 1986 Rayon
(D)	Percent of total identified (column B)
(E)	Number who are now living in a different Rayon but the original 1986 Oblast
(F)	Percent of total identified (column B)
(G)	Number who are now living in a different Oblast than the original 1986 Oblast
(H)	Percent of total identified (column B)
(I)	Number moved to another country
(J)	Percent of total identified (column B)
(K)	Number temporarily absent (e.g., in army, students, etc.)
(L)	Percent of total identified (column B)

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)
Table # 3	Status of Recruitment and Screening Activity												
Study Rayon	Total Living in Rayon	Total Invited	%	Accepted	%	Refused	%	Moved to Known Address	%	Unable to Locate	%	Other	%
Town of Pripriat													
Polessky													
Ivankiv	581	495	85%	284	49%	17	3%	24	4%	8	1%	5	1%
Chornobyl													
Kozelets													
Ripkinsky													
Chernihiv													
City of Chernihiv													
Narodychi													
Ovruch													
Recruitment in Other Rayons (people who moved from 1986 study rayons)													
City of Kyiv													
Other Kyiv Rayons													
Other Chernihiv Rayons													
Other Zhytomyr Rayons													
Total	581	495		284		17		24		8		5	

(A)	Name of study area (Rayon or City)
(B)	Number found living in the original 1986 study Rayon or moved to another Rayon within the study area
(C)	Number invited to participate in the study
(D)	Percent of those found living in the original 1986 study Rayon or moved to another Rayon within the study area (Column B)
(E)	Number who agreed to participate
(F)	Percent of those invited to participate in the study (Column C)
(G)	Number who refused to participate in study
(H)	Percent of those invited to participate in the study (Column C)
(I)	Number moved, but new address is known
(J)	Percent of those invited to participate in the study (Column C)
(K)	Unable to locate
(L)	Percent of those invited to participate in the study (Column C)
(M)	Other
(N)	Percent of those invited to participate in the study (Column C)

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)
Table # 4	Details of Accepted Invitations												
Study Rayon	Total Accepted	Screened	%	Did Not Complete Screening	%	Scheduled for Screening	%	Did Not Show Up	%	Rescheduled for Screening	%	New Refusals	%
Town of Pripriat													
Polessky													
Ivankiv	581	350	60%	100	17%	85	15%	24	4%	17	3%	8	1%
Chornobyl													
Kozelets													
Ripkinsky													
Chernihiv													
City of Chernihiv													
Narodychi													
Ovruch													
Recruitment in Other Rayons (people who moved from study rayons)													
City of Kyiv													
Other Chernihiv Rayons													
Other Zhytomyr Rayons													
Total	581	350		100		85		24		17		8	

(A)	Name of study area (Rayon or City)
(B)	Number who agreed to participate
(C)	Number who completed screening process
(D)	Percent of those who agreed to participate (Column B)
(E)	Number who did not complete screening process (did not complete one or more parts of screening)
(F)	Percent of those who agreed to participate (Column B)
(G)	Number who are scheduled for screening process
(H)	Percent of those who agreed to participate (Column B)
(I)	Number who were scheduled for screening process, but did not show up (for first scheduled screeening visit only)
(J)	Percent of those who agreed to participate (Column B)
(K)	Number who missed original scheduled appointment and are rescheduled for screening process
(L)	Percent of those who agreed to participate (Column B)
(M)	Number of people who initially agreed to particpate, but now refuse to particpate
(N)	Percent of those who agreed to participate (Column B)

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)
Table # 5	Reasons of Refusals														
Study Rayon	Total Invited	Refused	%	Cannot Afford Trip	%	Cannot Afford Time	%	Afraid of Blood Draw	%	Already Being Examined	%	Other Reason	%	No Reason Given	%
Town of Pripriat															
Polessky															
Ivankiv	581	350	60%	100	17%	85	15%	24	4%	8	1%	17	3%	17	3%
Chornobyl															
Kozelets															
Ripkinsky															
Chernihiv															
City of Chernihiv															
Narodychi															
Ovruch															
Recruitment in Other Rayons (people who moved from study rayons)															
City of Kyiv															
Other Chernihiv Rayons															
Other Zhytomyr Rayons															
Total	581	350		100		85		24		8		17		17	

(A)	Name of study area (Rayon or City)
(B)	Number invited to participate in the study
(C)	Number who refused to participate in study
(D)	Percent of those who were invited to participate in study (Column B)
(E)	Number who said they could not afford to travel to study center
(F)	Percent of those who refused to participate (Column C)
(G)	Number who said they could not afford to take the time
(H)	Percent of those who refused to participate (Column C)
(I)	Number who refused becasue of blood draw
(J)	Percent of those who refused to participate (Column C)
(K)	Number who refused because they are already in another study or were examined for another reason
(L)	Percent of those who refused to participate (Column C)
(M)	Refused for other reason (for example, not interested, do not have proper clothes)
(N)	Percent of those who refused to participate (Column C)
(O)	Refused but no reason given
(P)	Percent of those who refused to participate (Column C)

Appendix B

Draft Project Reports in New Table Format

Table # 1	Identification Of Current Address of 1986 Cohort										
Study Rayon	Total in 20,000 Cohort in 1986	Total Living Identified	%	Deceased	%	Duplicate Records	%	Moved to Unkown Address	%	Not Found	%
Town of Pripriat	1584	360	23%		0%	11	1%		0%	1213	77%
Polessky	1399	9	1%		0%	5	0%		0%	1385	99%
Ivankiv	737	630	85%	3	0%	19	3%	37	5%	46	6%
Chornobyl	1484	114	8%		0%	14	1%		0%	1356	91%
Kozelets	2089	1421	68%	8	0%	17	1%	88	4%	555	27%
Ripkinsky	1377	1021	74%	11	1%	39	3%	54	4%	252	18%
Chernihiv	2857	1998	70%	14	0%	149	5%	244	9%	452	16%
City of Chernihiv	1193	1024	86%		0%		0%		0%	169	14%
Narodychi	4278	2742	64%	10	0%	816	19%		0%	710	17%
Ovruch	3072	2087	68%	10	0%	327	11%		0%	648	21%
Total	20070	11406	57%	56	0%	1397	7%	423	2%	6786	34%

Table # 2	Status of Cohort with Identified Current Addresses										
Study Rayon	Total Living Identified	Total Living in Rayon	%	Living in Same Oblast	%	Living in Other Oblast	%	Emigrated	%	Temporarily Absent	%
Town of Pripriat	360		0%	360	100%		0%		0%		0%
Polessky	9		0%	9	100%		0%		0%		0%
Ivankiv	630	581	92%		0%		0%		0%		0%
Chornobyl	114	0	0%	114	100%		0%		0%		0%
Kozelets	1421	1154	81%	69	5%	134	9%	13	1%	51	4%
Ripkinsky	1021	743	73%	117	11%	54	5%	64	6%	43	4%
Chernihiv	1998	1500	75%	355	18%	84	4%	23	1%	36	2%
City of Chernihiv	1024	1024	100%		0%		0%		0%		0%
Narodychi	2742	992	36%	1093	40%	616	22%	32	1%	9	0%
Ovruch	2087	1672	80%	50	2%	293	14%	72	3%		0%
Total	11406	7666	67%	2167	19%	1181	10%	204	2%	139	1%

Table # 3	Status of Recruitment and Screening Activity													
Study Rayon	Total Living in Rayon	Total Invited	%	Accepted	%	Refused	%	Moved to Known Address	%	Unable to Locate	%	Other	%
Town of Pripriat													
Polessky	581	494	85%		0%		0%		0%		0%		0%
Ivankiv	0	0											
Chornobyl	1154	1154	100%		0%		0%		0%		0%		0%
Kozelets	743		0%		0%		0%		0%		0%		0%
Ripkinsky	1500	1500	100%		0%		0%		0%		0%		0%
Chernihiv	1024		0%		0%		0%		0%		0%		0%
City of Chernihiv	992	992	100%		0%		0%		0%		0%		0%
Narodychi	1672	1672	100%		0%		0%		0%		0%		0%
Ovruch													
Recruitment in Other Rayons (people who moved from study rayons)													
City of Kyiv	413	413	100%	350	85%	31	8%	5	1%	27	7%		0%
Other Kyiv Rayons	43	43											
Other Chernihiv Rayons													
Other Zhytomyr Rayons	89	89	100%		0%		0%		0%		0%		0%
Total	8211	6357		350		31		5		27		0	

Table # 4	Details of Accepted Invitations													
Study Rayon	Total Accepted	Screened	%	Did Not Complete Screening	%	Scheduled for Screening	%	Rescheduled for Screening	%	Did Not Show Up	%	New Refusals	%
Town of Pripriat													
Polessky													
Ivankiv		145											
Chornobyl		37											
Kozelets		285											
Ripkinsky													
Chernihiv													
City of Chernihiv													
Narodychi		426											
Ovruch		770											
Recruitment in Other Rayons (people who moved from study rayons)													
City of Kyiv	350	333	95%			350	100%			17	5%		
Other Chernihiv Rayons													
Other Zhytomyr Rayons		67											
Total	350	2063		0		350		0		17		0	

Table # 5	Reasons of Refusals												
Study Rayon	Total Invited	Refused	%	Cannot Afford Trip	%	Cannot Afford Time	%	Afraid of Blood Draw	%	Already Being Examined	%	No Reason Given	%
Town of Pripriat													
Polessky													
Ivankiv													
Chornobyl													
Kozelets													
Ripkinsky													
Chernihiv													
City of Chernihiv													
Narodychi													
Ovruch													
Recruitment in Other Rayons (people who moved from study rayons)													
City of Kyiv	413	31	8%							5	1%	26	6%
Other Chernihiv Rayons													
Other Zhytomyr Rayons													
Total	413	31	8%	0	0%	0	0%	0	0%	5	1%	26	6%